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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
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08/745,827 11/12/96 SMITH

EXAMINER
E 96-VN-1

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PM21/0930

ART UNIT	PAPER NUMBER
7301	3

DATE MAILED 14

09/30/98

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

OFFICE ACTION SUMMARY

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire three month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-19 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-6, 9, 10 & 13-19 is/are rejected.
- ☒ Claim(s) 7, 8, 11 & 12 is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☒ The drawing(s) filed on 11/12/96 is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of Reference Cited, PTO-892
- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

-- SEE OFFICE ACTION ON THE FOLLOWING PAGES --

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-6, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Margolin (5,566,073; hereinafter Margolin).

A. As per claim 1, Margolin discloses a digital computer system for generating a three-dimensional representation of the terrain over which the vehicle is operating (Abs.). As shown in Fig. 1, the system includes a digital computer (107), a position information unit (101) for providing satellite-based positioning data, a terrain database (105), and an image processing unit (108, 109) for generating a three-dimensional display of the terrain over which the vehicle is operating. See col. 6, lines 7-65.

B. As per claims 2-6 and 9, Margolin further discloses that the position information unit (101) may be embodied as a GPS receiver wherein GPS satellite data is processed to produce longitude, latitude, altitude, time, velocity, etc. in the manner well-known in the navigation art. Since the vehicle continuously changes its position relative to the terrain, the GPS data would have been continuously updated to accurately reflect the vehicle's location and thus produce a more accurate terrain representation.

8. Claims 1-6 and 9 are further rejected under 35 U.S.C. 102(e) as being anticipated by Monson (5,721,679; hereinafter Monson).

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DETAILED ACTION

1. This application has been examined. Claims 1-19 are pending.
2. The prior art filed 11/12/96 has been considered.
3. The drawings are objected to because the different views shown in Fig. 4 should be labeled separately (i.e., Fig. 4A, Fig. 4B). The Brief Description of the Drawings and detailed description should be amended as appropriate. Correction is required.
4. A proposed drawing correction must be provided with applicant's next response.
5. Claims 13-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - A. As per claim 13, at lines 7-8 and 11-12 "the sampled GPS data" lacks antecedence.
 - B. As per claim 15, "the global positioning satellite data" lacks antecedence.
 - C. As per claim 16, "the step of generating the simulated image of the real-world based upon the GPS data that has been sampled" lacks antecedence.
 - D. All claims depending from a rejected base claim are also rejected as containing the same deficiencies.
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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A. As per claim 1, Monson discloses a computer-based system for generating a three-dimensional terrain map over which a vehicle is traversing . As shown in Fig. 9, the system includes a digital computer (22), a navigational locator (66) for producing position information, a memory (64) for storing geographical information, and a display device (48) for displaying a three-dimensional map of the terrain over which the vehicle is operating (Figs. 1 and 2). See col. 8, lines 5-19; col. 8, line 62 to col. 9, line 4; col. 12, lines 42-60; col. 13, lines 27-36.

B. As per claims 2-6 and 9, Monson further discloses that the navigation locator (66) may be embodied as a GPS receiver wherein GPS satellite data is processed to produce longitude, latitude, altitude, time, velocity, etc. in the manner well-known in the navigation art (see col. 12, lines 52+). Since the vehicle continuously changes its position relative to the terrain, the GPS data would have been continuously updated to accurately reflect the vehicle's location and thus produce a more accurate terrain representation.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Margolin (5,566,073; hereinafter Margolin) or Monson (5,721,679; hereinafter Monson).

A. Both Margolin and Monson are applied as above. Since both systems generate representations of the terrain over which a vehicle is operating, continuous updates of the position information would have been performed wherein the rate at which the updates were carried out would have been a function of the specific hardware used and the accuracy levels desired. Claim 10 specifically recites updating the position information at a rate of at least every 0.5 seconds. However, one of ordinary skill in the art would have found it obvious to select an update rate based on the criteria noted above. For example, Margolin discloses using the display system to represent terrain being flown over by an aircraft whereas Monson discloses using the display system in conjunction with an agricultural vehicle working in the fields. One of ordinary skill in the art would have readily recognized that the update interval for Margolin would have been faster given the velocity of the vehicles involved. One of ordinary skill in the art

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would have found it obvious to select the particular update rate most suitable for the given application.

12. Claims 13-19 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

13. Claims 7, 8, 11, and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael Zanelli** whose telephone number is (703) 305-9756.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

/mjz

September 28, 1998


MICHAEL ZANELLI
PRIMARY EXAMINER